



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Northwest Region  
7600 Sand Point Way N.E., Bldg. 1  
Seattle, WA 98115

Refer to:  
OSB2000-0033

February 25, 2000

Mr. George Fekaris  
Federal Highway Administration  
Western Federal Lands Highway Division  
610 East Fifth Street  
Vancouver, Washington 98661-3893

Re: Biological Opinion for the Sandlake-Galloway Road Project  
(Oregon Forest Highway 164), Tillamook County, Oregon

Dear Mr. Fekaris:

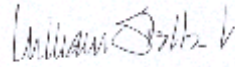
In a letter dated October 18, 1999, the Federal Highway Administration (FHWA) submitted a request for formal consultation on proposed improvements to the Sandlake-Galloway Road (Oregon Forest Highway 164) in Tillamook County near Sandlake, Oregon. The existing road provides access to the Sand Lake Recreational Area, which is administered by the Siuslaw National Forest. The October 18, 1999, letter was accompanied by a biological assessment and was received by the National Marine Fisheries Service (NMFS) on October 19, 1999. Enclosed is NMFS' biological opinion for the proposed action.

This opinion considers the potential effects of the proposed project on Oregon Coast coho salmon (*Oncorhynchus kisutch*) which occur in the proposed project area. Oregon Coast coho salmon were listed as threatened under the Endangered Species Act on August 10, 1998 (63 FR 24998), and critical habitat was designated on February 16, 2000 (65 FR 7764). NMFS concludes that the proposed action is not likely to jeopardize the subject species, or destroy or adversely modify proposed critical habitat. Included in the enclosed opinion is an incidental take statement with terms and conditions to minimize the take of the subject species.



If you have any questions regarding this letter, please contact Scott Carlon of my staff in the Oregon State Branch Office at (503) 231-2379.

Sincerely,

A handwritten signature in dark ink, appearing to read "William Stelle, Jr.", is written over a light blue rectangular background.

William Stelle, Jr.  
Regional Administrator

Endangered Species Act - Section 7  
Consultation

Biological and Conference Opinion

Sandlake-Galloway Road Project (Oregon Forest Highway 164)  
Tillamook County, Oregon

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,  
Northwest Region

Date Issued: February 25, 2000

Refer to: OSB2000-0033

## TABLE OF CONTENTS

I. BACKGROUND .....	<a href="#">1</a>
II. PROPOSED ACTION .....	<a href="#">2</a>
III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT .....	<a href="#">3</a>
IV. EVALUATING PROPOSED ACTIONS .....	<a href="#">4</a>
A.    Biological Requirements .....	<a href="#">4</a>
B.    Environmental Baseline .....	<a href="#">5</a>
V. ANALYSIS OF EFFECTS .....	<a href="#">6</a>
A.    Effects of Proposed Actions .....	<a href="#">6</a>
B.    Effects on Critical Habitat .....	<a href="#">8</a>
C.    Cumulative Effects .....	<a href="#">8</a>
VI. CONCLUSION .....	<a href="#">8</a>
VII. CONSERVATION RECOMMENDATIONS .....	<a href="#">9</a>
VIII. REINITIATION OF CONSULTATION .....	<a href="#">9</a>
IX. REFERENCES .....	<a href="#">9</a>
X. INCIDENTAL TAKE STATEMENT .....	<a href="#">10</a>
A.    Amount of Extent of Take .....	<a href="#">10</a>
B.    Reasonable and Prudent Measures .....	<a href="#">11</a>
C.    Terms and Conditions .....	<a href="#">11</a>

## I. BACKGROUND

The Federal Highway Administration (FHWA) Western Federal Lands Division, in partnership with the U.S. Forest Service and Tillamook County, is proposing improvements to the Sandlake-Galloway Road in Tillamook County, Oregon. The existing road provides access to the Sand Lake Recreational Area, which is administered by the Siuslaw National Forest. The existing road is considered too narrow for the many large recreational vehicles that use it, and the narrow lanes and gravel shoulders provide no room for bicycles that frequent the area. To make travel through the area more safe, FHWA and its partners are proposing to widen and realign the roadway, restore roadway surfaces, correct settlement and drainage problems, replace bridges and culverts, and improve bicycle access.

The proposed project area straddles two watersheds. The eastern portion lies within the West Beaver Creek watershed which is a sub-basin of the Nestucca River, and the western portion lies within the Sand Creek watershed which drains into the Sank Lake estuary. Both watersheds support Oregon Coast (OC) coho salmon (*Oncorhynchus kisutch*), OC steelhead (*O. mykiss*), and OC cutthroat trout (*O. clarki clarki*). The OC coho salmon Evolutionarily Significant Unit (ESU)<sup>1</sup> was listed by the National Marine Fisheries Service (NMFS) as threatened under the Endangered Species Act (ESA) on August 10, 1998 (63 FR 42587). The ESU includes all naturally spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco. Critical habitat for this species was proposed on May 10, 1999 (64 FR 24998). Since critical habitat has been proposed for OC coho salmon, this Opinion serves as NMFS' Conference Opinion until such time that NMFS publishes a final critical habitat rule.

OC steelhead and OC cutthroat trout also occur in the project area. OC steelhead was designated as a candidate species on March 19, 1998 (63 FR 13347) and OC cutthroat trout was designated as a candidate species on April 5, 1999 (64 FR 16397). Neither ESU is likely to become listed prior to the completion of this project, therefore they are not considered further in this Opinion. Please note that jurisdiction over cutthroat trout has been transferred from NMFS to the U.S. Fish and Wildlife Service. One exception to this is jurisdiction over the Umpqua River cutthroat trout ESU will remain with NMFS until a final rule is issued regarding the proposed de-listing of this ESU.

Due to the presence of a listed andromous fish species, the FHWA requested ESA section 7 consultation with NMFS in an October 18, 1999, letter. The letter was accompanied by a biological assessment (BA) and was received by NMFS on October 19, 1999. The FHWA determined that the proposed action would likely adversely affect OC coho salmon.

---

<sup>1</sup>For the purposes of conservation under the Endangered Species Act, an Evolutionarily Significant Unit is a distinct population segment that is substantially reproductively isolated from other conspecific population units and represents an important component in the evolutionary legacy of the species.

The objective of this biological opinion is to determine whether the proposed action is likely to jeopardize the continued existence of OC coho salmon or destroy or adversely modify proposed critical habitat for this species.

## **II. PROPOSED ACTION**

The proposed action is divided into three segments totaling 7.6 miles. Segment 1 begins at the intersection of U.S. Highway 101 and Sandlake Road [Mile Post (MP) 0.0], roughly 12 miles south of the City of Tillamook, and continues along Sandlake Road to its intersection with Cape Lookout Road at MP 4.4. Segment 2 extends from the Cape Lookout Road junction to the Galloway Road intersection at MP 5.3. And Segment 3 begins at Galloway Road and ends at the Sand Lake Recreation Area at roughly MP 7.6.

### **Segment 1**

The roadway pavement surface would be widened to 26 feet to provide two 11-foot travel lanes and 2-foot shoulders. Additional shoulder widening would be provided in areas of steep grade and sharp curves for bicycle use. The roadway shoulder would be widened an additional 2 feet (i.e., to 4 feet) in the westbound direction for bicycle traffic in two areas of Segment 1 deemed critical for sight distance and safety. This would occur from the intersection with Highway 101 for 1 mile and from MP 2.36 to MP 3.98. Minor alignment shifts would occur within the first 3.5 miles to reduce the curvature of several sharp bends.

The twin culverts at the Tiger Creek crossing would be replaced with a single-span bridge. Riprap and/or tree plantings would be used to protect the banks around the bridge from scour. Culverts at two crossings of West Fork Beaver Creek would be replaced and one culvert in an unnamed tributary would be replaced. In addition, five other culverts may be replaced at crossings over unnamed tributaries.

### **Segment 2**

The roadway pavement surface would be widened to 30 feet to provide two 11-foot travel lanes, a 2-foot shoulder in the northbound direction, and a 6-foot shoulder in the southbound the direction for bicycle traffic. It was determined that Segment 2 was the only segment with consistent bicycle use where bicycle travel is predominantly north to south. Therefore, bicycle provisions would be provided in the southbound direction along the entire length of Segment 2, roughly 2.3 miles.

In this segment, the roadway crosses Sand Creek and an unnamed tributary to Sand Creek. The Atkinson Bridge over Sand Creek would be left in place and the culvert at the unnamed tributary to Sand Creek may be replaced. Riprap and/or tree plantings would be used to protect the banks around the bridge from scour

### Segment 3

The roadway pavement surface would be widened to 24 feet to provide two 11-foot travel lanes and 1-foot shoulders. Additional shoulder width would consist of 1 foot of gravel. The roadway crosses Sand Creek via a three-span bridge. This bridge would be replaced with a single-span structure.

### Culvert Design

Replacement culverts would be designed and installed to provide fish passage. Culverts would be countersunk below the existing stream bed to provide a simulated natural stream bottom through each culvert. All culverts would also be sized to provide desirable velocities for the target species and would match channel widths where practical to eliminate channel constrictions and velocity barriers.

## **III. BIOLOGICAL INFORMATION AND CRITICAL HABITAT**

Although there are currently limited data to assess population numbers or trends, the NMFS believes that all coho salmon stocks comprising the OC coho salmon ESU are depressed relative to past abundance. The status and relevant biological information concerning OC coho salmon are well described in the proposed and final rule listings from the Federal Register (July 25, 1995, 60 FR 38011; and May 6, 1997, 62 FR 24588, respectively), and Weitkamp *et al.* (1995).

Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from about 1965 to roughly 1975 and has fluctuated at a low level since that time (Nickelson *et al.* 1992). Spawning escapements for this ESU may be at less than 5% of abundance in the early 1900s. Contemporary production of coho salmon may be less than 10% of the historic production (Nickelson *et al.* 1992). Average spawner abundance has been relatively constant since the late 1970s, but preharvest abundance has declined. Average recruits-per-spawner may also be declining. The OC coho salmon ESU, although not at immediate danger of extinction, may become endangered in the future if present trends continue (Weitkamp *et al.* 1995).

OC coho salmon, as with other anadromous salmonids, face numerous and varied influences which affect their productivity. Their present depressed condition is the result of several longstanding, human-induced factors (e.g., habitat degradation, harvest, water diversions, and artificial propagation) that exacerbate the adverse effects of natural environmental variability (drought, floods, and poor ocean conditions). NMFS (1997) identifies and discusses the following freshwater factors that contribute to the decline of coho salmon: Changes in channel morphology, substrate changes in streams, loss of instream roughness, loss of estuarine rearing habitat, loss of wetlands, loss/degradation of riparian areas, water quality degradation, changes in flow, blockage/passage impediments, elimination of habitat, direct take, and cumulative effects.

Critical habitat for OC coho salmon includes Oregon coastal river basins (freshwater and estuarine areas) between Cape Blanco and the Columbia River. Freshwater critical habitat includes all waterways, substrates, and adjacent riparian areas—areas adjacent to a stream that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of

large woody debris or organic matter—below longstanding, natural impassable barriers (i.e., natural waterfalls in existence for at least several hundred years) and several dams that block access to former coho salmon habitat. The proposed action would occur in designated critical habitat for OC coho salmon.

#### **IV. EVALUATING PROPOSED ACTIONS**

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of (1) defining the biological requirements and current status of the listed species, and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action, (2) the environmental baseline, and (3) any cumulative effects. If NMFS finds that the action is likely to jeopardize the listed species, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will destroy or adversely modify critical habitat, it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for migration, spawning, and rearing of OC coho salmon under the existing environmental baseline.

##### **A. Biological Requirements**

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution



and genetic diversity. To assess to the current status of the listed species, NMFS starts with the determinations made in its decision to list OC coho for ESA protection and also considers new data available that is relevant to the determination (Weitkamp et al. 1995).

The relevant biological requirements are those necessary for OC coho salmon to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environmental.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful rearing and migration. The current status of the OC coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened.

## **B. Environmental Baseline**

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect affects may occur throughout the watershed where actions described in this opinion lead to additional activities or affect ecological functions contributing to stream degradation. For this consultation, the action area includes those portions of the Beaver Creek and Sand Creek watersheds that occur within the Sandlake-Galloway roadway corridor from its junction with Highway 101 to the Sand Lake Recreation Area.

The bulk of OC coho salmon production occurs within the southern portion of this ESU where the coastal lake systems (e.g. Tenmile, Tahkenitch, and Siltcoos Basins) and the Coos and Coquille Rivers are more productive. However, the action area is located in the northern half of the ESU where production is more depressed and habitat is underseeded.

The action area likely provides juvenile rearing habitat and serves as a migration corridor for both juvenile and adults. In Tiger Creek, spawning occurs upstream of the affected crossing. West Beaver Creek, which parallels Segment 1 for roughly 2.5 miles and crosses Segment 1 in two locations, contains fine sediments with a shallow gradient and meandering channel. OC coho salmon do not occur in the upper reaches of West Beaver Creek from North Beaver Creek on the north side of the roadway in Segment 1 to the headwaters.

Upland vegetation in the West Beaver Creek drainage has been heavily logged with the remaining timber consisting of second growth stands. The majority of adjacent land in the proposed action area is under private ownership and much of the land adjacent to the creek has been cleared and is used as pasture. Riparian areas along Sand Lake Creek and West Beaver Creek contain western red cedar, black cottonwood, red alder, and Scouler willow. The riparian zones associated with several unnamed tributaries consist mostly of scrub-shrub vegetation.

## **V. ANALYSIS OF EFFECTS**

### **A. Effects of Proposed Actions**

The effects determination in this Opinion was made using a method for evaluating current habitat conditions, the environmental baseline, and predicting effects of actions on the baseline. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). After determining the potential impacts of the action, efforts were made to avoid, minimize, and mitigate these impacts. Then, the net effects of action are expressed in terms of the expected effect—restore, maintain, or degrade—on aquatic habitat indicators in the project area.

All habitat indicators for water quality—i.e., water temperature, turbidity, and chemical contamination—are expected to be maintained in the long-term (greater than 1 year). All habitat indicators for habitat elements—i.e., substrate, large wood, pool quality, off-channel habitat, streambank condition, floodplain connectivity, etc.—are also expected to be maintained in the long term. Potential short term (less than 1 year) effects are summarized and discussed below.

#### *Sediment*

Activities associated with culvert removal and installation, bridge construction, and roadway construction would likely suspend sediments creating turbid water. This has the potential to disrupt adult and juvenile migration and displace rearing juveniles downstream of project areas. These effects would be minimized by timing of in-water work and implementation of sediment and erosion control measures.

All in-water work would be accomplished during Oregon Department of Fish and Wildlife's (ODFW) in-water work windows, which were devised to minimize impacts on sensitive species. In the Sand Lake estuary, in-water work would be conducted between November 1 and February 15 of any year. This timing allows in-water work to occur after adult OC coho salmon have migrated through the estuary and into upstream spawning areas, and before juveniles migrate to the ocean. In Sand Lake, West Beaver, and Tiger Creeks and associated tributaries, in-water work would be completed

between July 1 and September 15 of any year. This allows work to occur after juvenile OC coho salmon have migrated to the ocean and before adults return to freshwater to spawn. Because OC coho salmon juveniles rear in freshwater for 1 year before migrating to the ocean, potential impacts on this life stage are difficult to avoid.

Site specific sediment and erosion control measures such as placement of temporary ground cover on all exposed soils and slopes, placement of silt fences at the base of slopes and areas adjacent to waterways, and containment of excavated materials would prevent sediment from entering surface waters. Flow would be diverted around culvert construction sites to minimize suspension of sediments. All erosion and sediment control measures would be inspected weekly.

The combination of in-water work timing, which would avoid sensitive periods of migration and spawning, and the installation of erosion and sediment control measures are expected to minimize take of OC coho salmon from in-water construction disturbance and sediment input.

#### *Chemical Contamination*

As with all construction activities, there is potential for accidental release of fuel, oil, and other contaminants. To minimize this potential, all refueling would be conducted outside of all riparian and wetland areas. Hazardous spill containment and cleanup equipment would be kept at all refueling sites. All equipment would be inspected and cleaned prior to entering wetlands and streams. Construction staging areas would be located at upland sites. Finally, Best Management Practices required by the Corps and/or the State of Oregon would further minimize the potential for accidental release of hazardous materials.

#### *Temperature*

Some riparian vegetation would likely be removed during culvert and bridge construction and roadway expansion. It is not expected that water temperatures would be degraded as a result of the proposed action. Removal of riparian vegetation would be limited such that it is unlikely that summer stream temperatures would be affected. Furthermore, planting of native riparian vegetation would occur after construction is completed.

#### *Habitat Access*

As stated earlier, replacement culverts would be designed and installed to provide fish passage. Culverts would be countersunk below the existing stream bed to provide a simulated natural stream bottom through each culvert. All culverts would also be sized to provide desirable velocities for the target species and would match channel widths where practical to eliminate channel constrictions and velocity barriers.

The twin culverts at the Tiger Creek (Segment 1) crossing would be replaced with a single-span bridge, which is expected to improve fish passage conditions at this site. In addition, the three-span Galloway Road Bridge would be replaced with a single-span structure which is expected to improve hydraulics and fish passage. Overall, habitat access for OC coho salmon would likely improve over current conditions after the proposed action is completed.

## **B. Effects on Critical Habitat**

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. The entire project would occur within designated critical habitat.

The proposed action will affect critical habitat. NMFS expects that the net effect of the proposed action will tend to maintain or restore properly functioning conditions in the watershed under current baseline conditions over the long term. In the short term, temporary increase of sediments and turbidity and disturbance of in-water and riparian habitat is expected. In the long term, no net loss of habitat will occur because of the proposed habitat restoration activities. NMFS does not expect that this action will diminish the value of the habitat for recovery or survival of OC coho salmon.

## **C. Cumulative Effects**

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. Therefore, these actions are not considered cumulative to the proposed action.

The NMFS is not aware of any future new (or changes to existing) non-Federal activities within the action area that would cause greater impacts to listed species than presently occurs. The NMFS assumes that future private and state actions will continue at similar intensities as in recent years.

## **VI. CONCLUSION**

Based on the available information, NMFS has determined that the proposed action is not likely to jeopardize the continued existence of OC coho salmon or adversely modify designated critical habitat. In reaching this conclusion, NMFS determined that the survival and recovery of OC coho salmon would not be appreciably diminished by the proposed action. In summary, our conclusion is based on: (1) All in-water work would be completed during ODFW's designated in-water work windows which would preclude the presence of migrating and spawning OC coho salmon; (2) implementation of erosion and sediment control measures would minimize effects on OC coho salmon habitat and

minimize displacement of rearing juvenile OC coho salmon should any be present in the proposed action area during in-water construction; (3) summer stream temperatures would not be increased as removal of riparian vegetation would be limited and replacement plantings would occur; (4) potential effects from chemical contamination would be minimized or possibly eliminated as all staging would occur outside of riparian areas, equipment would be cleaned prior to entering streams and wetlands, runoff from wash sites would be treated before entering waterways, and a Spill Prevention Control and Countermeasures Plan would be established; and (5) fish passage conditions and stream hydraulics would be improved due to replacing undersized culverts with larger ones, burying culvert inverts below the streambed, and adding single-span bridges. Therefore, the proposed action is expected to restore or maintain properly functioning OC coho salmon rearing habitat conditions within the action area.

## **VII. CONSERVATION RECOMMENDATIONS**

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NMFS has no additional conservation recommendations regarding the action addressed in this opinion.

## **VIII. REINITIATION OF CONSULTATION**

Reinitiation of consultation is required: (1) If the action is modified in a way that causes an effect on the listed species that was not previously considered in the biological assessment and this biological opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 C.F.R. 402.16).

## **IX. REFERENCES**

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

NMFS (National Marine Fisheries Service). 1997. Coastal coho factors for decline and protective efforts in Oregon. NMFS, Northwest Region, Habitat Conservation Program. 85 p.

Nickelson, T. E., J. W. Nicholas, A. M. McGie, R. B. Lindsay, D. L. Bottom, R. J. Kaiser, and S. E. Jacobs. 1992. Status of anadromous salmonids in Oregon coastal basins. Oregon Department of Fish and Wildlife, Research Development Section and Ocean Salmon Management, 83 p. Oregon Department of Fish and Wildlife, P.O. Box 59, Portland.

Weitcamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dep. Commer., NOAA Tech Memo. NMFS-NWFSC-24, Northwest Fisheries Science Center, Seattle, Washington. 258 pages.

## **X. INCIDENTAL TAKE STATEMENT**

Sections 4(d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

### **A. Amount of Extent of Take**

The NMFS anticipates that the proposed action covered by this biological opinion has more than a negligible likelihood of incidental take of juvenile OC coho salmon resulting from short term pulses of suspended sediment and construction noise and vibration. Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long term effects on the species' population levels. The effects of these activities on population levels are also largely unquantifiable and not expected to be measurable in the long term. This is because the impacts are relatively small and not expected to appreciably add to cumulative effects.

Therefore, even though NMFS expects some low level of incidental take to occur due to the action covered by this biological opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species

itself. In instances such as this, the NMFS designates the expected level of take as unquantifiable. Based on the information provided, NMFS anticipates that an unquantifiable but low level of incidental take could occur as a result of the action covered by this biological opinion. Moreover, the small amount of take that may occur is expected to be non-lethal.

## **B. Reasonable and Prudent Measures**

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimizing take of the above species. Minimizing the amount and extent of take is essential to avoid jeopardy to the listed species.

1. To minimize the amount and extent of incidental take from construction activities within the Sand Lake and Beaver Creek watersheds, measures shall be taken to limit the duration and extent of in-water work, and to time such work to occur when the impacts to fish are minimized.
2. To minimize the amount and extent of incidental take from construction activities in or near watercourses, effective erosion and pollution control measures shall be developed and implemented to minimize the movement of soils and sediment both into and within watercourses and to stabilize bare soil over both the short term and long term.
3. To minimize the amount and extent of take and to minimize impacts to critical habitat, measures shall be taken to minimize impacts to riparian and in-stream habitat, or where impacts are unavoidable, to replace lost riparian and in-stream function.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all erosion control measures shall be monitored and evaluated both during and following construction and meet criteria as described below in the terms and conditions.

## **C. Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, the FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. In-water work:
  - a. Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. FHWA designs will ensure passage of fishes as per ORS 498.268 and ORS 509.605.
  - b. All work within the ordinary high water mark of all anadromous fish-bearing systems, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be completed within ODFW's in-water work period (July 1 to September 15 for the Sand Lake and Beaver Creek watersheds and November 1 to February 15).

- c. Alteration or disturbance of stream banks and existing riparian vegetation will be minimized. Where bank work is necessary, bank protection material shall be placed to maintain normal waterway configuration.
- d. No pollutant of any kind (petroleum products, fresh concrete, silt, etc.) shall come in contact with the river.

## 2. Erosion and Pollution Control

- a. Erosion Control measures shall include (but not be limited to) the following:
  - i. Erosion control blankets or heavy duty matting (e.g., jute) may be used on steep unstable slopes in conjunction with seeding or prior to seeding.
  - ii. Sills or barriers may be placed in drainage ditches along cut slopes and on steep grades to trap sediment and prevent scouring of the ditches. The barriers will be constructed from rock and straw bales.
  - iii. Biobags, weed-free straw bales and loose straw may be used for temporary erosion control. Temporary erosion and sediment controls will be used on all exposed slopes during any hiatus in work on exposed slopes.
- b. Effective erosion control measures shall be in-place at all times during the contract. Construction within the 5-year flood plain will not begin until all temporary erosion controls (e.g., straw bales, silt fences) are in-place, downslope of project activities within the riparian area. Erosion control structures will be maintained throughout the life of the contract.
- c. All temporarily-exposed areas will be seeded and mulched. Erosion control seeding and mulching, and placement of erosion control blankets and mats (if applicable) will be completed on all areas of bare soil within 7 days of exposure within 150 feet of waterways, wetlands or other sensitive areas. All other areas will be stabilized within 14 days of exposure. Efforts will be made to cover exposed areas as soon as possible after exposure.
- d. All erosion control devices will be inspected during construction to ensure that they are working adequately. Erosion control devices will be inspected daily during the rainy season, and weekly during the dry season. Work crews will be mobilized to make immediate repairs to the erosion controls, or to install erosion controls during working and off-hours. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional controls will be installed as necessary.



- e. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.
- f. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 12 cm. Catch basins shall be maintained so that no more than 15 cm of sediment depth accumulates within traps or sumps.
- g. Where feasible, sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters an aquatic resource area. Silt fences or other detention methods will be installed as close as possible to culvert outlets to reduce the amount of sediment entering aquatic systems.
- h. A supply of erosion control materials (e.g., straw bales and clean straw mulch) will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.
- i. All equipment that is used for in-water work will be cleaned prior to entering the two-year flood plain. External oil and grease will be removed, along with dirt and mud. Untreated wash and rinse water will not be discharged into streams and rivers without adequate treatment.
- j. On cut slopes steeper than 1:2 a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, a hydro-mulch will be applied at 1.5 times the normal rate.
- k. Material removed during excavation shall only be placed in locations where it cannot enter sensitive aquatic resources. Conservation of topsoil (removal, storage and reuse) will be employed.
- l. Measures will be taken to prevent construction debris from falling into any aquatic resource. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.
- m. Project actions will follow all provisions of the Clean Water Act (40 CFR Subchapter D) and Oregon Department of Environmental Quality's (DEQ) provisions for maintenance of water quality standards not to be exceeded within the Sand Lake and Beaver Creek watersheds (OAR Chapter 340, Division 41). Toxic substances shall not be introduced above natural background levels in waters of the state in amounts which may be harmful to aquatic life. Any turbidity caused by this project shall not exceed DEQ water quality standards.

- n. The Contractor will develop an adequate, site-specific Spill Prevention and Countermeasure or Pollution Control Plan (PCP), and is responsible for containment and removal of any toxicants released. The PCP shall include the following:
    - i. A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for contractor's operations related to disposal sites, borrow pits operations, haul roads, equipment storage sites, fueling operations and staging areas.
    - ii. Methods for confining and removing and disposing of excess concrete, cement and other mortars. Also identify measures for washout facilities.
    - iii. A spill containment and control plan that includes: notification procedures; specific clean up and disposal instructions for different products; quick response containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
    - iv. Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the project, including the following: the types of materials, estimated quantity, storage methods, and disposal methods.
    - v. The person identified in 00280 as the Erosion and Pollutant Control Manager (EPCM) shall also be responsible for the management of the contractor's PCP.
  - o. Hazmat booms will be installed in all aquatic habitats where:
    - i. Significant in-water work will occur, or where significant work occurs within the 5-year flood plain of the system, or where sediment/toxicant spills are possible.
    - ii. The aquatic habitats can support a boom setup (i.e. the creek is large enough, low-moderate gradient ).
  - p. Hazmat booms will be maintained on-site in locations where there is potential for a toxic spill into aquatic systems. "Diapering" of vehicles to catch any toxicants (oils, greases, brake fluid) will be mandated when the vehicles have any potential to contribute toxic materials into aquatic systems.
  - q. No surface application of nitrogen fertilizer will be used within 50 feet of any aquatic resource.
3. Riparian Habitat Protection Measures
- a. Boundaries of the clearing limits will be flagged by the project inspector. Ground will not be disturbed beyond the flagged boundary.
  - b. Alteration of native vegetation will be minimized. Whenever trees or shrubs must be removed during the course of the project, the above ground portion of the vegetation

will be pruned or cut so that the roots are left intact. This will reduce erosion while still allowing room to work.

- c. Riparian understory and overstory vegetation removed will have a replacement rate of 1.5:1. Replacement will occur within the project vicinity where possible. Any disturbed riparian areas must be planted with trees and shrubs, at a minimum.

#### 4. Monitoring

- a. All significant riparian replant areas will be monitored to insure the following:
  - i. Finished grade slopes and elevations will perform the appropriate role for which they were designed.
  - ii. Plantings are performed correctly and have an adequate success rate.
- c. Failed plantings and structures will be replaced, if replacement would potentially succeed.
- d. By December 31 of the year following construction, FHWA shall submit to NMFS (Oregon Branch), a monitoring report with the results of the monitoring required in terms and conditions (4(a) to 4(c) above), and results of the habitat restoration activities (3(d) above) of the above reasonable and prudent measures.